Reconstruction of Historical MET Data over Lake Tahoe Region

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Outline

- Rationale
- Approaches
- Major Tasks
- State of Progress
- Future Activities

Rationale

- Weather variables such as precipitation are main driver of hydrology and related transport component of TMDL study
- Scarcity of weather stations and many ungaged basins in Lake Tahoe
- Need for filling spatial gaps existing in weather data

Approaches

- Distance-based interpolation of weather station data
- Spatial reconstruction of weather data by numerical weather model

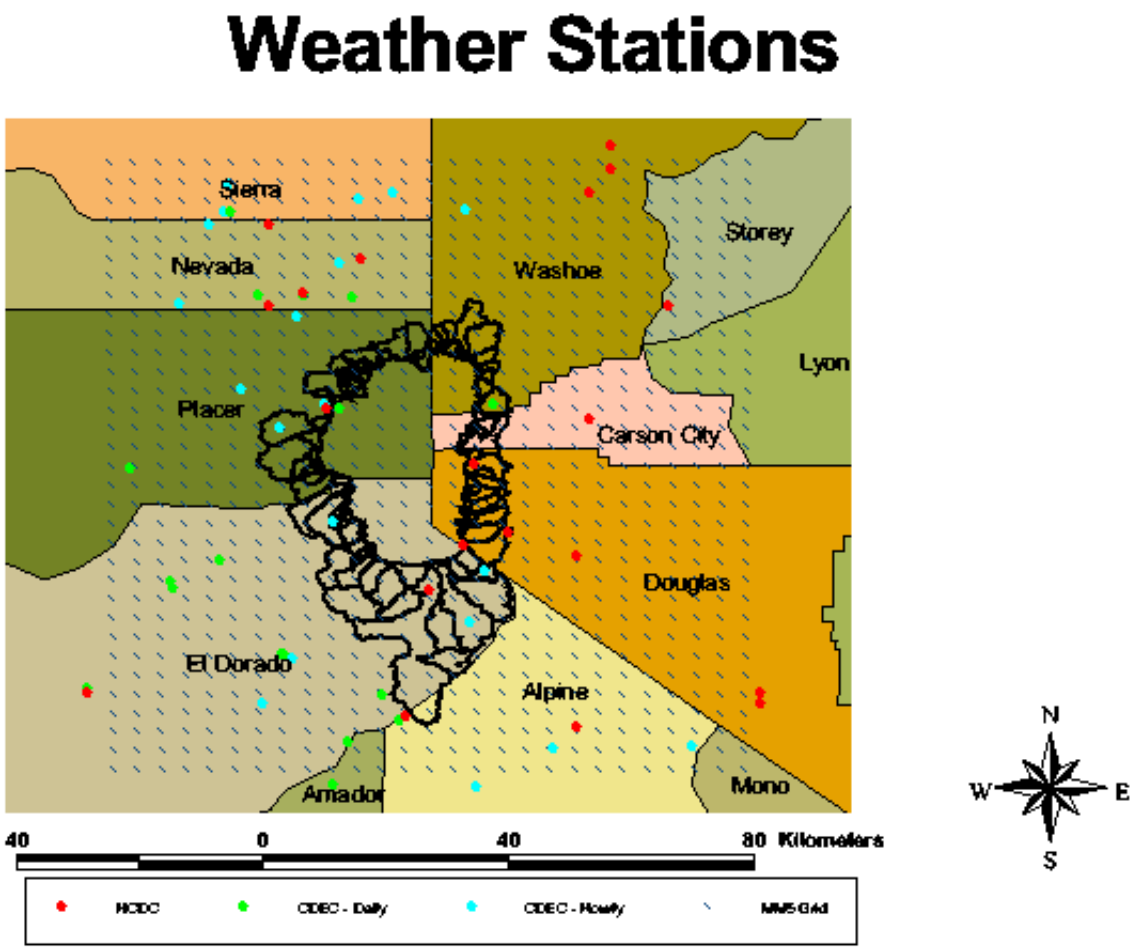
Major Tasks

- Compilation of historical weather data
- Numerical weather simulation
  - Meso-scale model MM5 by PSU/NCAR
- Validation of numerical weather simulation

Data Compilation

- Focus on recent years (1996-2000)
- Data Sources
  - California Data Exchange Center (CDEC)
  - National Climatic Data Center(NCDC)

Distribution of weather stations - CDEC + NCDC



Current Inventory

Year	CDEC	NCDC
	Daily	Daily
1996	Δ	O
1997	Δ	O
1998	Δ	O
1999	O	O
2000	O	O

O: Complete Δ : In progress

Weather Simulation

- Available Parameters
  - Temperature [K]
  - Precipitation [mm/day]
  - Heat Flux [W/m2]
  - Radiation [W/m2]
  - Mixing Ratio [kg/kg]
  - Wind Speed [m/s]

State of Progress

- 10 years worth of outputs have been produced (1991-2000)
- ASCII Text Format
- Spatial Coverage

  27 x 33 Grid with Cell resolution of 3km
- Rough estimate of data size

  108 Mb / Year / Parameter

Future Activities

- Data Collection:

  will be continued for CDEC portion of data
- Weather Simulation:

  continue for remaining historical period (1958-1990)
- Validation of weather simulation